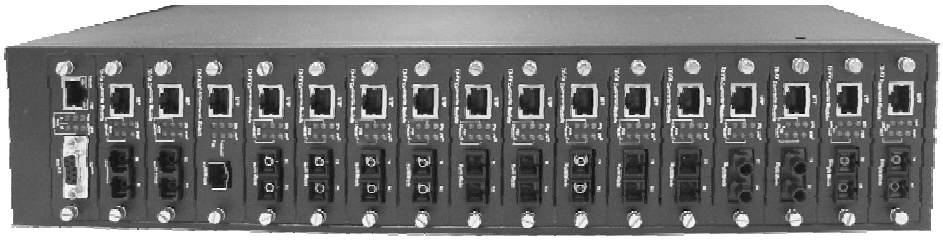


Raven Series Modular Media Converter System

MIL-RCM16A and MIL-RCM16D 16 Slot Raven Conversion Modules Managed Chassis with AC or DC Power Source

USER GUIDE

Regulatory Approval

- FCC Class A
- UL 1950
- CSA C22.2 No. 950
- EN60950
- CE
- EN55022 Class A
- EN55024

Canadian EMI Notice

This Class A digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le materiel brouilleur du Canada.

European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community Compliance with these directives imply conformity to the following European Norms:

- EN55022 (CISPR 22) - Radio Frequency Interference
- EN61000-X - Electromagnetic Immunity
- EN60950 (IEC950) - Product Safety

One-Year Limited Warranty

Transition Networks warrants to the original consumer or purchaser that each of it's products, and all components thereof, will be free from defects in material and/or workmanship for a period of one year from the original factory shipment date. Any warranty hereunder is extended to the original consumer or purchaser and is not assignable.

Transition Networks makes no express or implied warranties including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, except as expressly set forth in this warranty. In no event shall Transition Networks be liable for incidental or consequential damages, costs, or expenses arising out of or in connection with the performance of the product delivered hereunder Transition Networks will in no case cover damages arising out of the product being used in a negligent fashion or manner.

Trademarks

The MiLAN logo and Transition Networks trademarks are registered trademarks of Transition Networks in the United States and/or other countries.

To Contact Transition Networks

For prompt response when calling for service information, have the following information ready:
- Product serial number and revision
- Date of purchase
- Vendor or place of purchase

You can reach Transition Networks technical support at:

E-mail: techsupport@transition.com
Transition Networks
10900 Red Circle Drive
Minnetonka, MN 55344
United States of America

Telephone: +1.800.526.9267
Fax: : +1.952.941.2322

http://www.milan.com
info@ Transition.com

© Copyright 2006 Transition Networks

Table of Contents

1. Introduction

Features
Intelligent Features
Management Methods
Console and Telnet Management
Web-based Management
SNMP Network Management
Package Contents

2. Hardware Description

Front Panel
Rear Panel
LED Indicators
RS-232 Console

3. Connecting to the Network

Pre-Installation Requirements
Mounting the Device
Desktop Installation
Rack-mounted Installation
Power On
Diagnostic Test

4. Network Configuration

Connecting a Terminal or PC to the Console Port
4-1. Main Menu
4-1-1. Device Settings
4-1-2. Modules Settings
4-1-3. Redundant Power Status
4-1-4. Events Log
4-1-5. SNMP Trap
4-1-6. Secure IP for Telnet, HTTP, and SNMP
4-1-7. Save Current Settings
4-1-8. Factory Default Settings & Reboot System
4-1-9. Reboot System

5. Web-Based Management

5-1. System Login
5-2. System Configuration
5-2-1. Home Page
5-2-2. Modules Settings
5-2-3. IP Configuration
5-2-4. SNMP
5-2-5. Save and Reboot
5-2-5-1. Save Settings
5-2-5-2. Reboot System
5-2-6. Upgrade Firmware

6. SNMP Management

6-1. SNMP Management

7. Technical Specifications

Appendix A. Internet Explorer Setting

1.
Introduction

The Raven Series Modular Media Converter System is a combination of 16-slot host cabinet and various optional media converter modules. A maximum of sixteen modules can be installed in the cabinet. The power supply will support AC or DC, with an optional matching power supply for load sharing and redundancy.

Figure 1-1. The Raven Series Media Converter System

With built-in web-based Management, managing and configuring the conversion system is simplified. The web browser may be used to configure and manage the network, from cabinet level management to port level control and monitoring. Use of a mouse replaces typing of command strings. The switch can also be managed via Telnet, Console, or SNMP Management.

Features

- **Cabinet conforms to IEEE 802.3 and IEEE802.3u**
  Sixteen Converter Module slots
- **One built-in module with a RS-232 console port and a Fast Ethernet RJ-45 port for In-band management**
- **Half-duplex mode for backpressure, and full-duplex for flow-control in management Ethernet port.**
- **System LED indicators: Power Good (A, B), Power Fail (A, B), System power, CPU Ready, Ethernet port link/activity, Full duplex**
- **Hot swappable bracket module design**
- **Converter module options:**

  MIL-RC3412

  - 10/100TX to 100FX multi-mode with ST (2 KM)

  MIL-RC3413

  - 10/100TX to 100FX multi-mode with SC (2 KM)

  MIL-RC3413-30

  - 10/100TX to 100FX single mode with SC connector (30 KM)

  MIL-RC34W13

  10/100TX to 100FX single mode, WDM, 1310nm TX with SC connector (20 KM)

  MIL-RC34W15

  - 10/100TX to 100FX single mode, WDM, 1550nm TX with SC Connector (20 KM)

  MIL-RC6413SX

  - 10/100/1000TX to 1000SX multi-mode with SC (550M)

  MIL-RC6413LX

  - 10/100/1000TX to 1000LX single mode with SC (10 KM)

Intelligent Features

Web-based management

SNMP network management

Console and Telnet management

Module-specific configuration

Automatic module type display

Management Methods

The Raven Series Modular Media Converter System supports the following management methods:

Console and Telnet Management
Web-based Management
SNMP Network Management

Console and Telnet Management

Console Management is done through the RS-232 Console Port. Managing the conversion system in this method requires a direct connection between a PC and the built-in management module. Telnet management requires a network connection. The default IP address is 192.168.1.77 with a subnet mask of 255.255.255.0. This default address can be used to login and change the configuration using Telnet.

Web-based Management

The conversion system provides an embedded HTML web server residing in flash memory. It offers advanced management features and allows users to manage the conversion system from anywhere on the network through a standard browser such as Microsoft Internet Explorer or Netscape.

SNMP Network Management

SNMP (Simple Network Management Protocol) provides a means to monitor and control network devices, and to manage configurations, statistic collection, performance, and security.

Data is passed from SNMP agents, which are hardware & software processes reporting activity in each network device, to the workstation console used to oversee the network. The SNMP agents return information contained in a MIB (Management Information Base), which is a data structure that defines what is obtainable from the device and what can be controlled.

Package Contents

Unpack the contents of the package and verify them against the checklist below.

Raven Series Chassis (Conversion Modules ship separately)
Power Cord
Four Rubber Feet
RS-232 cable
CD ROM containing Users Guide
Warranty Card

If any item is missing or damaged, please contact your local dealer for service.

2.
Hardware Description

Front Panel

Figure 2.1 below shows the Raven Series Media Converter Chassis fully populated with sixteen Raven Series Media Converter Modules and one RS232/Fast Ethernet RJ-45 Management Module.

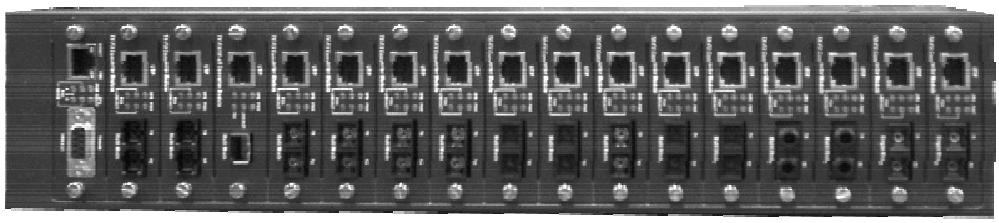


Figure 2-1. Front Panel for Raven Series Modular Media Converter System

Figure 2-2. Front Panel for Raven Series Multi-mode ST Module

Figure 2-3. Front Panel for Raven Series Single Mode SC module

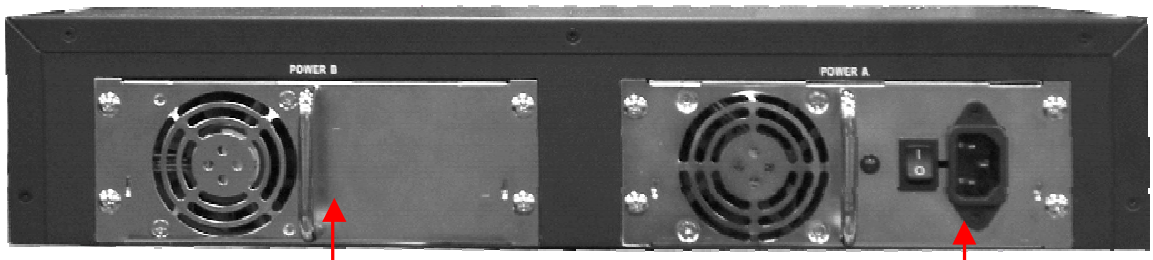
Figure 2-4. Front Panel for Raven Series Multi-mode SC module

Rear Panel

The 3-pronged power plug and power on/off switch are located at the Rear Panel of the Raven Series chassis, as shown in Figure 2-6. The equipment will work with AC in the range 100-240VAC, 50-60Hz (AC type power supply) or DC power in the range 40.5 ~57.0 @ 20A (DC type power supply).

The conversion system ships standard with one power module and one fan module. An additional power module unit is optional for load sharing and redundancy.

Note: Redundant power modules must be the same type power supply. AC power and DC power are not available in a single system.



Power Slot B ships with a fan module standard or an optional redundant power module.

Power Slot A ships with either an AC or DC power module.

Figure 2-6. Rear Panel

LED Indicators

All LED status indicators are located on the front panel of the conversion system. There are eight LED-indicators on the CPU Module and six LED-indicators on each of the Fast Ethernet to Fiber converter modules. The following tables provide descriptions of the LED statuses and meaning. They provide a real-time indication of systematic operation status.

Fast Ethernet to Fiber Conversion Modules

LED	Status	Meaning
Speed (RJ-45)	On (Green)	Link is on 100Mbps mode
LINK/ACT (RJ-45)	On	Ethernet link up
	Flashing (Green)	Port is transmitting packets
FDX (RJ-45)	On	Link is on Full Duplex mode
	Off	Link is on Half Duplex mode
Power	On (Green)	Power on
LINK/ACT (Fiber)	On	Ethernet Link up
	Flashing (Green)	Port is transmitting packets
FDX (Fiber)	On	Link is on Full Duplex mode
	Off	Link is on Half Duplex mode
LK/ACT	On / Flashing	Ethernet power link is up / packet is transmitting
FDX	On / Flashing	Ethernet link is on Full Duplex mode / Collision

Table 2-1. Fast Ethernet to Fiber Converter Module LED-indicator statuses and meaning

Management Module

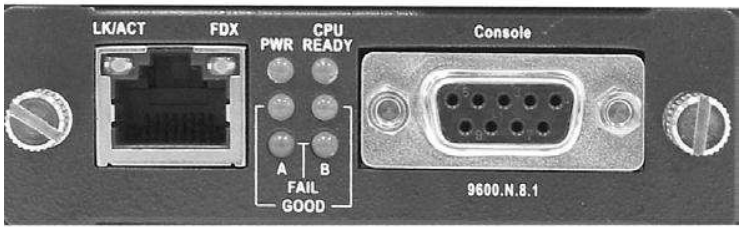


Figure 2-7.Management Module LED-indicators

LED	Status	Meaning
CPU Ready	Flashing (Green)	System kernel is working correctly
PWR	On	System power is ready
Good A	On	Power Module A is ready
	Off	Power Module A is not ready
Good B	On	Power Module B is ready
	Off	Power Module B is not ready
Fail A	On	Power Module A is fail
	Off	Power Module A is ready
Fail B	On	Power Module B is fail
	Off	Power Module B is ready
LK/ACT	On / Flashing	Ethernet power is link up / packet is transmitting
FDX	On / Flashing	Ethernet is link on Full Duplex mode / Collision

Table 2-2. CPU Module LED-indicator statuses and meaning

RS-232 Console

The console port is used to connect a management station or terminal with the conversion system. Use the RS-232 serial port for out-of-band management.

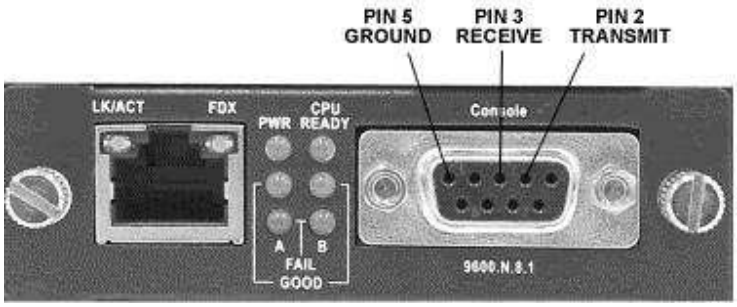


Figure 2-8.Management Module Serial Port Pinouts

3.
Connecting to the Network

Pre-Installation Requirements

You will need the following prior to installing the hardware:

- **PC or Workstation with 10/100BASE-TX Ethernet card or RS-232 serial port**: Your PC must have a standard Ethernet interface or Serial port to connect to the Device.
- **Ethernet UTP cable with RJ-45 connector or DB-9 RS-232 Serial cable:** Check if the cable and connectors work properly.
- **A power outlet: 100 to 240V AC at 50 to 60 Hz or DC power.** Make sure that the Device power is accessible and power cords can be connected easily.
- **Dedicated power supply**: Use dedicated power circuits or power conditioners to supply reliable electrical power to the network devices.
- **A dry cool place**: Keep the Device away from moisture. Avoid direct sunlight, heat source, and high amounts of electromagnetic interference, all of which will adversely affect the performance of the Device.
- **Mounting tools:** If you intend to mount the device on a rack, make sure you have all the tools, mounting brackets, screws.

Mounting the Device

The Raven Series Modular Media Converter System is suitable for use in an office environment where it can be rack-mounted in standard EIA 19-inch racks or used in a standalone configuration.

Desktop Installation

Set the conversion system on a sufficiently large flat space with a power outlet nearby. The surface where you put your conversion system should be clean, smooth, level, and sturdy. Provide enough clearance around the conversion system to allow attachment of cables, power cord and air circulation.

Attaching Rubber Feet

A. Make sure mounting surface on the bottom of the conversion system is grease and dust free.
B. Remove adhesive backing from the rubber feet.
C. Apply the rubber feet to each corner on the bottom of the conversion system. These footpads can prevent the conversion system from shock/vibration.

Figure 3-1. Attaching rubber feet to each corner on the bottom of the conversion system

Rack-mounted Installation

The Raven Series Media Converter System includes a rack-mount kit that allows it to be mounted in an EIA standard size, 19-inch rack.

Perform the following steps to rack mount the conversion system:

A. Position one bracket to align with the holes on one side of the conversion system and secure it with the bracket screws. Then attach the remaining bracket to the other side of the conversion system.

Figure 3-2. Attach mounting brackets with screws

B. After attaching both mounting brackets, position the conversion system in the rack by lining up the holes in the brackets with the appropriate holes on the rack. Secure the conversion system to the rack with a screwdriver and the rack-mounting screws.

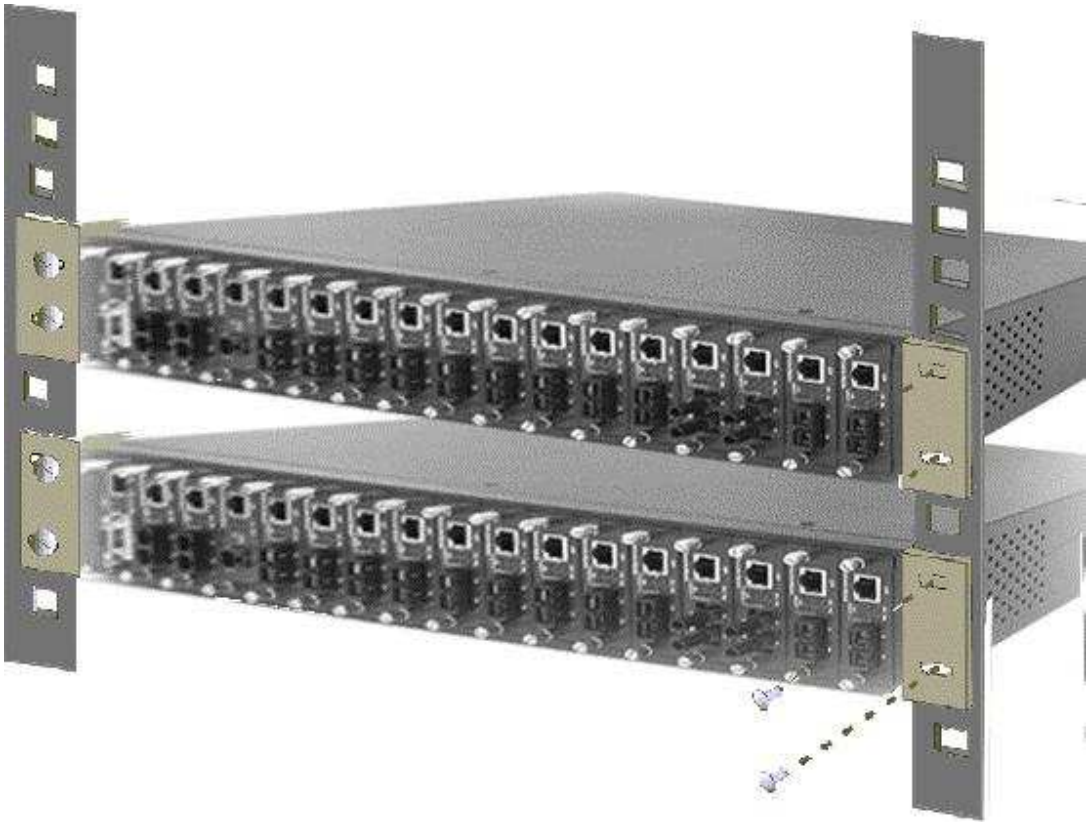


Figure 3-3. Mounting the Raven Series Media Converter System in an EIA standard 19-inch Rack

Note: For proper ventilation, allow at least 4 inches (10 cm) of clearance on the front and 3.4 inches (8 cm) on the back of the conversion system. This is especially important for enclosed rack installations.

Power On

Connect the power cord to the power socket on the rear panel of the conversion system. Connect the other end of the cord to an appropriate power outlet.

Press the power On/Off switch to the On position and check the power indicator on the front panel to see if power is properly supplied.

Diagnostic Test

The system will automatically perform a diagnostic test once the installation is completed and power is applied to the device.

When the Power LED is on for 4 seconds, the CPU Ready LED will begin flashing, indicating the system is ready. If the CPU LED is a steady light, the diagnostic test has failed. Contact MiLAN Technical Support for assistance.

4.
Network Configuration

Connecting a Terminal or PC to the Console Port

The serial console port is a male DB-9 connector that enables a connection to a PC or terminal for monitoring and configuring the conversion system.

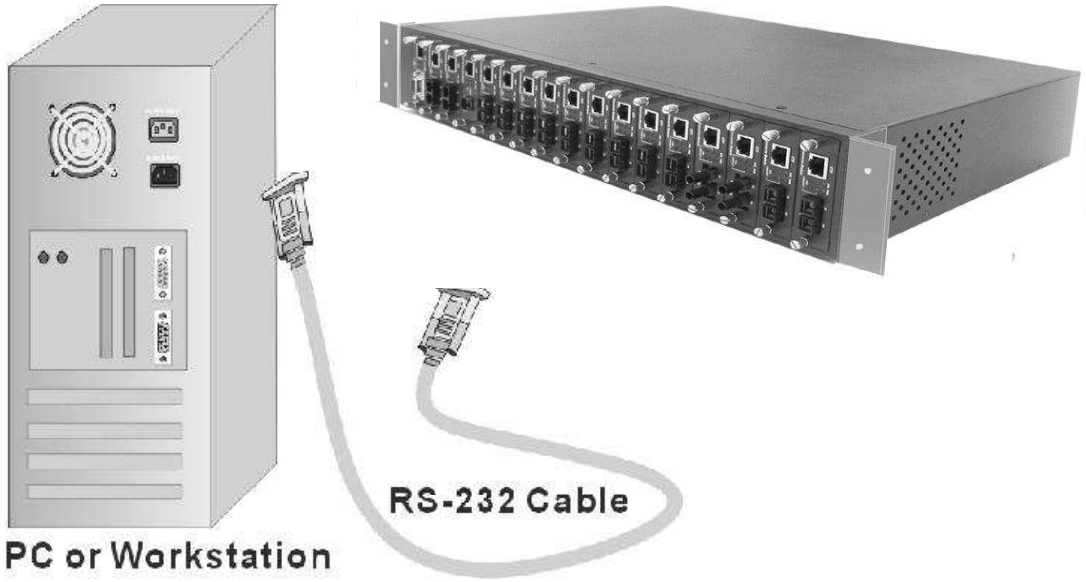


Figure 4-1. Connecting the Raven Series Media Converter System to a terminal via RS-232 cable

Use the supplied RS-232 cable with a female DB-9 connector to connect a terminal or PC to the console port. The terminal or PC to be connected must support a terminal emulation program.

After the connection between the conversion system and PC is finished, turn on the PC or terminal and **run a terminal emulation program or Hyper Terminal** to match the following default characteristics of the console port:

Baud Rate: 9600 bps
Data Bits: 8
Stop Bit: 1
Parity: none
Flow control: None

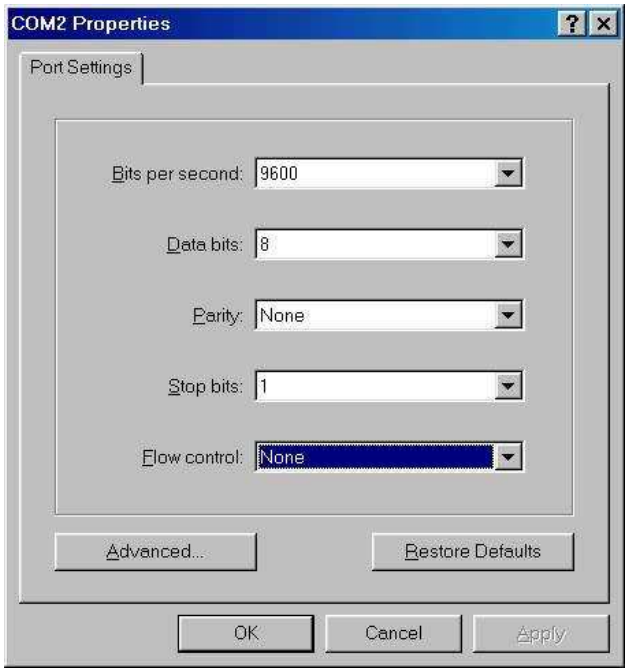


Figure 4-2. The setting of communication parameters

In order to telnet from a directly connected PC to the Device, the IP address of the PC must be in the same class as the Device. The default IP address of the Device is 192.168.1.77, with a subnet mask of 255.255.255.0. A recommendation is to set the PC IP address to 192.168.1.156 with a subnet of 255.255.255.0. Then using a telnet program on your PC telnet to address 192.168.1.77. The default user name is **root** with the default password of **root**.

After you have entered the parameter settings, press the " **Enter** " Key and the Main Menu of console management appears.

4-1. Main Menu

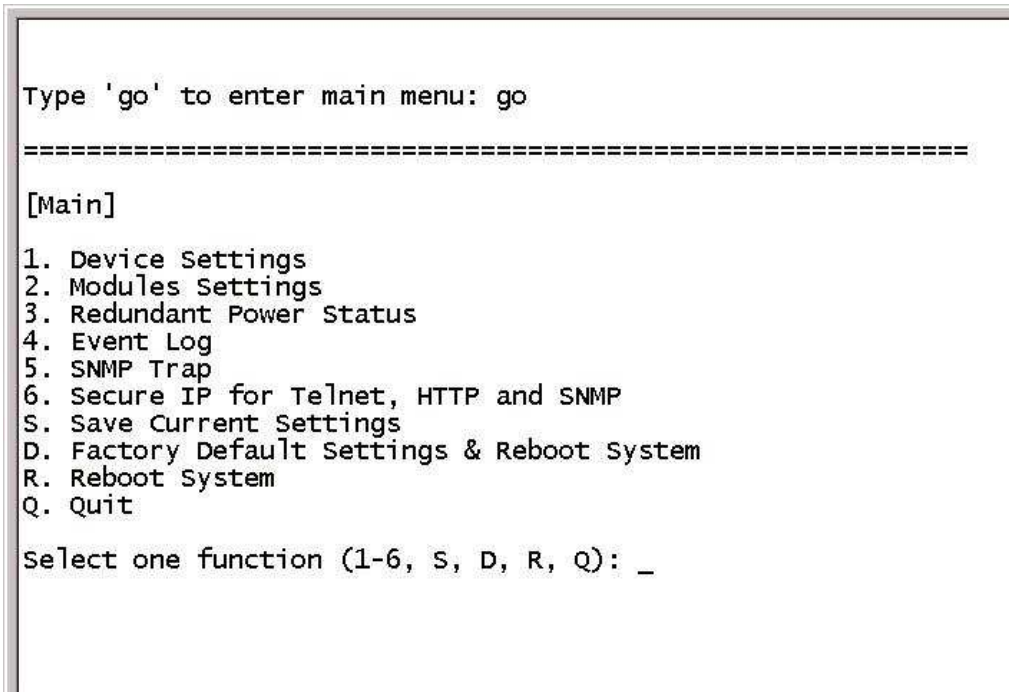

Type 'go' to enter main menu: go
[Main]
1. Device Settings
2. Modules Settings
3. Redundant Power Status
4. Event Log
5. SNMP Trap
6. Secure IP for Telnet, HTTP and SNMP
S. Save Current Settings
D. Factory Default Settings & Reboot System
R. Reboot System
Q. Quit
Select one function (1-6, S, D, R, Q): _

Figure 4-3. The Main Menu

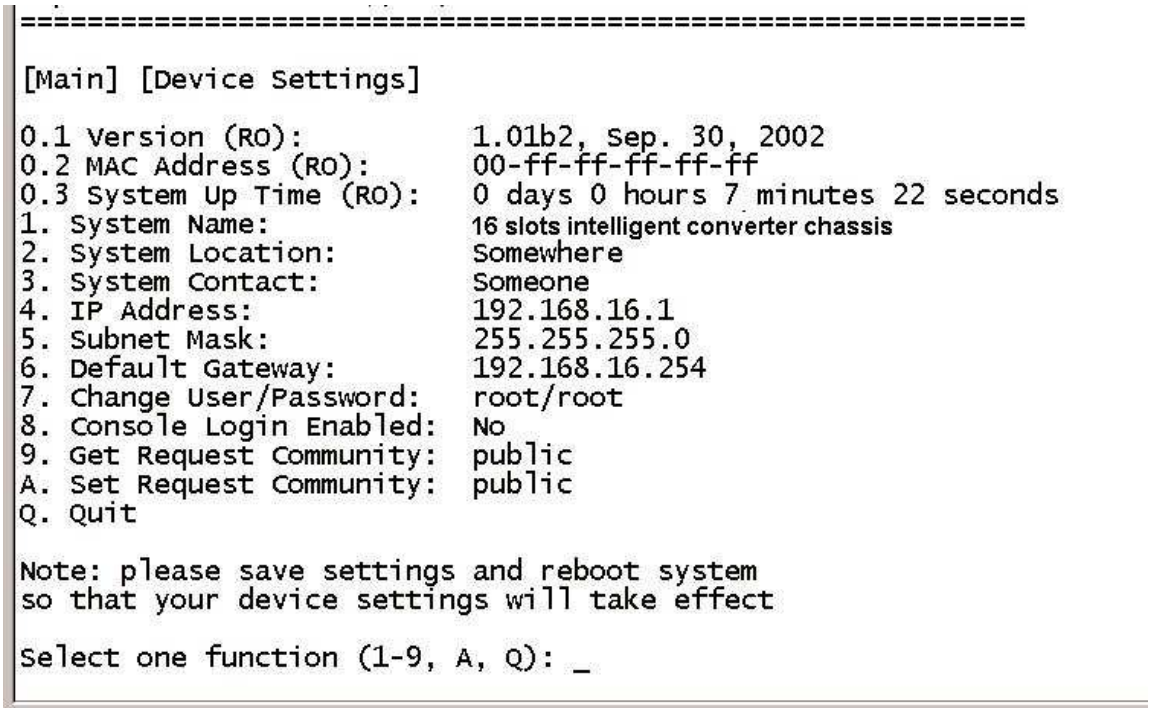
At the prompt, type **go** and press the **Enter** key to access the Main Menu. The following sections describe the options available in the Main Menu and their associated sub-menus.

To select a menu item, enter the appropriate character (**1-6, S, D, R** or **Q**), and then press the **Enter** key to select the item.

4-1-1. Device Settings

This menu enables the user to change the conversion system settings. Saving and rebooting the conversion system is necessary to have the new configuration take effect.

To configure **Device Settings, select 1** and then press the **Enter** key from the main menu. Enter the number or letter, and then press **Enter** to select an item.


[Main] [Device Settings]
0.1 Version (RO): 1.01b2, Sep. 30, 2002
0.2 MAC Address (RO): 00-ff-ff-ff-ff-ff
0.3 System Up Time (RO): 0 days 0 hours 7 minutes 22 seconds
1. System Name: 16 slots intelligent converter chassis
2. System Location: Somewhere
3. System Contact: Someone
4. IP Address: 192.168.16.1
5. Subnet Mask: 255.255.255.0
6. Default Gateway: 192.168.16.254
7. Change User/Password: root/root
8. Console Login Enabled: No
9. Get Request Community: public
A. Set Request Community: public
Q. Quit
Note: please save settings and reboot system
so that your device settings will take effect
Select one function (1-9, A, Q): _

Note: The Version (0.1), MAC Address (0.2) and System Up Time (0.3) fields are fixed and cannot be updated.

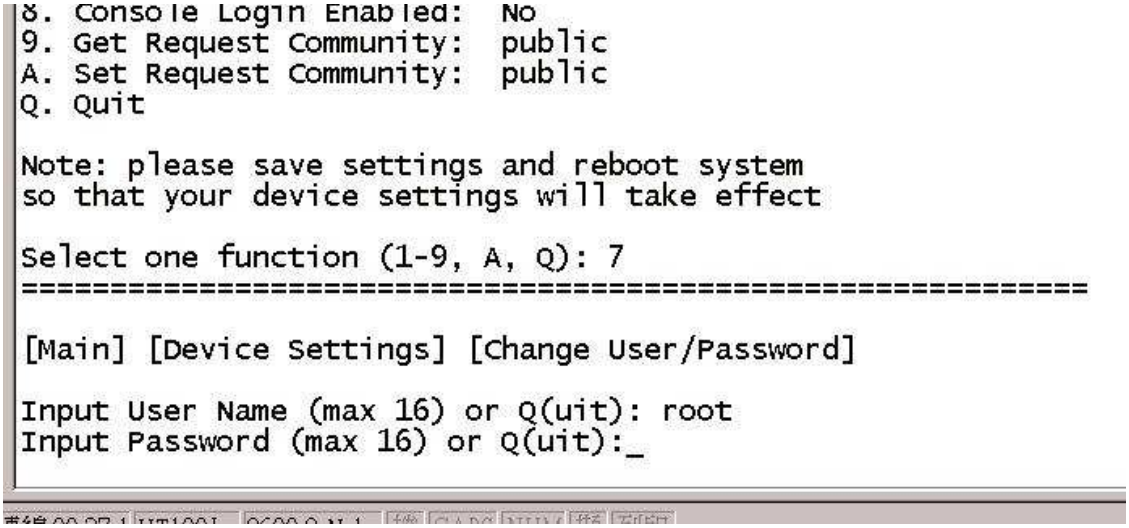
System Name (1): 64 characters can be used to give the conversion system a unique name in order to distinguish it on the network.
System Location (2): 64 characters can be used to describe the location of the conversion system.
System Contact (3): 64 characters can be used to list contact information for the conversion system.
IP Address (4): The user can change the IP Address for the conversion

system to a unique IP address. The factory default IP address is: **192.168.16.1**.

Subnet Mask (5): The user can change the Subnet Mask for the conversion system to a unique Subnet Mask. The factory default Subnet Mask is **255.255.255.0**.

Default Gateway (6): The user can change the IP address of the default gateway if packets are being sent to another IP network. The factory Default Gateway is **192.168.16.254.**

NOTE: You must select the **Save** option in the Main Menu, then Reboot the system in order for these features to take effect.


8. Console Login Enabled: No
9. Get Request Community: public
A. Set Request Community: public
Q. Quit
Note: please save settings and reboot system
so that your device settings will take effect
Select one function (1-9, A, Q): 7
[Main] [Device Settings] [Change User/Password]
Input User Name (max 16) or Q(uit): root
Input Password (max 16) or Q(uit):_

Change User Name / Password (7): The user can enter up to 16 characters for the user name and password. **The default user name and password is root.**

```
8. Console Login Enabled:  No
9. Get Request Community:  public
A. Set Request Community:  public
Q. Quit

Note: please save settings and reboot system
so that your device settings will take effect

Select one function (1-9, A, Q): 8
=========================================================

[Main] [Device Settings] [Console Login Enabled]

Input Yes or No (Y, N): n_
```

Console Login Enabled (8): The user may enable (Yes) or disable (No) console management security. The user name and password are required to enable console management. The default setting is disabled (No).

```
8. Console Login Enabled:  No
9. Get Request Community:  public
A. Set Request Community:  public
Q. Quit

Note: please save settings and reboot system
so that your device settings will take effect

Select one function (1-9, A, Q): 9
=========================================================

[Main] [Device Settings] [Get Request Community]

Input Get Request Community (max 32) or Q(uit): _
```

Get Request Community (9): 32 characters can be used to enter a community string. The default community string is **public**.

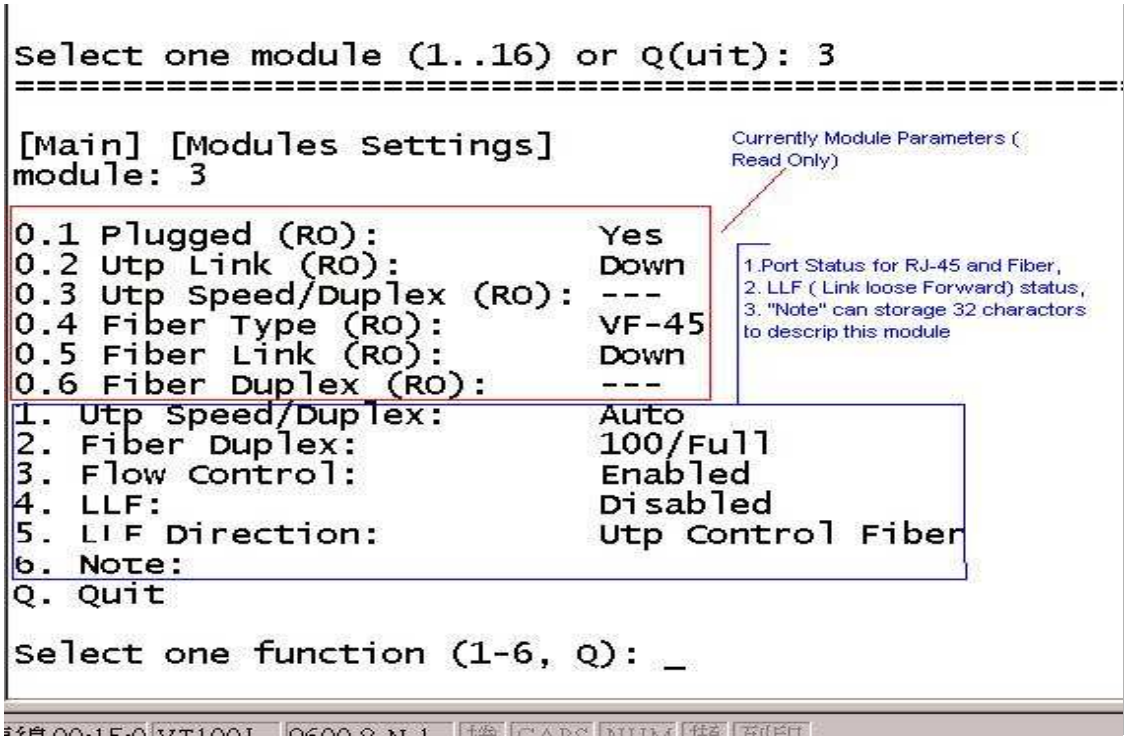
```
9. Get Request Community:  public
A. Set Request Community:  public
Q. Quit

Note: please save settings and reboot system
so that your device settings will take effect

Select one function (1-9, A, Q): a
=========================================================

[Main] [Device Settings] [Set Request Community]

Input Set Request Community (max 32) or Q(uit): _
```

Set Request Community (A): 32 characters can be used to enter a community string. The default community string is **public**.

4-1-2. Modules Settings

This menu enables the user to change the media converter module operation mode.

To configure **Modules Settings, select 2** and then press the **Enter** key from the main menu. Enter the number or letter, and then press **Enter** to select an item.


Select one module (1..16) or Q(uit): 3
[Main] [Modules Settings]
module: 3
Currently Module Parameters (Read Only)
0.1 Plugged (RO): Yes
0.2 Utp Link (RO): Down
0.3 Utp Speed/Duplex (RO): ---
0.4 Fiber Type (RO): VF-45
0.5 Fiber Link (RO): Down
0.6 Fiber Duplex (RO): ---
1.Port Status for RJ-45 and Fiber,
2. LLF (Link loose Forward) status,
3. "Note" can storage 32 charactors to descrip this module
1. Utp Speed/Duplex: Auto
2. Fiber Duplex: 100/Full
3. Flow Control: Enabled
4. LLF: Disabled
5. LLF Direction: Utp Control Fiber
6. Note:
Q. Quit
Select one function (1-6, Q): _

Enter the module position number (1 - 16) and then press **Enter** to change the settings for that module.

Note: The Plugged (0.1), UTP Link (0.2), UTP Speed/Duplex (0.3), Fiber Type (0.4), Fiber Link (0.5) and Fiber Duplex (0.6) fields are fixed and cannot be updated.

UTP Speed/Duplex (1): Indicates whether in auto-negotiation mode or forced 10 or 100, FDX or HDX.

Fiber Duplex (2): Indicates the duplex mode FDX or HDX of the fiber port.

Flow Control (3): Indicates whether flow control is enabled or disabled on the port.

LLF (4): Indicates whether LLF is enabled or disabled on the module.

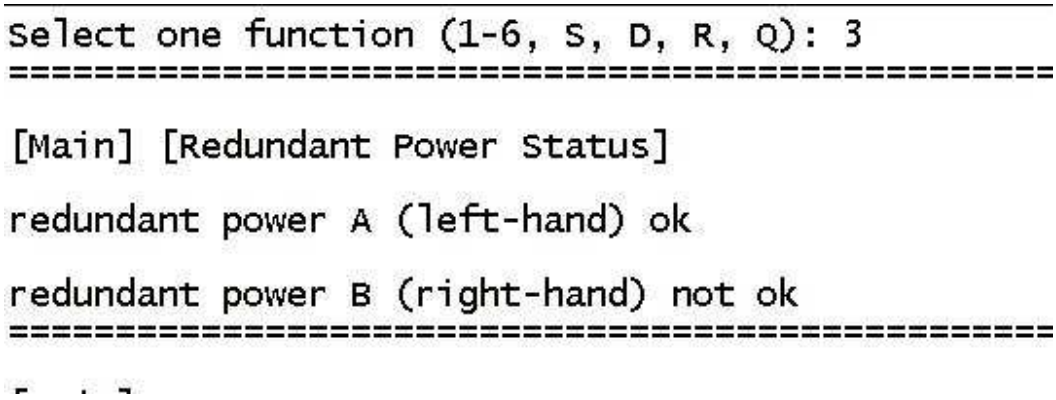
LLF Direction (5): Indicates which direction LLF is enabled, either UTP to Fiber or Fiber to UTP.

Note (6): This field allows the network administrator to label the module with information such as what devices the module interconnects.

4-1-3. Redundant Power Status

This menu enables the user to view the current status of the conversion system Power Modules.

To view **Redundant Power Status, select 3** and then press the **Enter** key from the main menu.

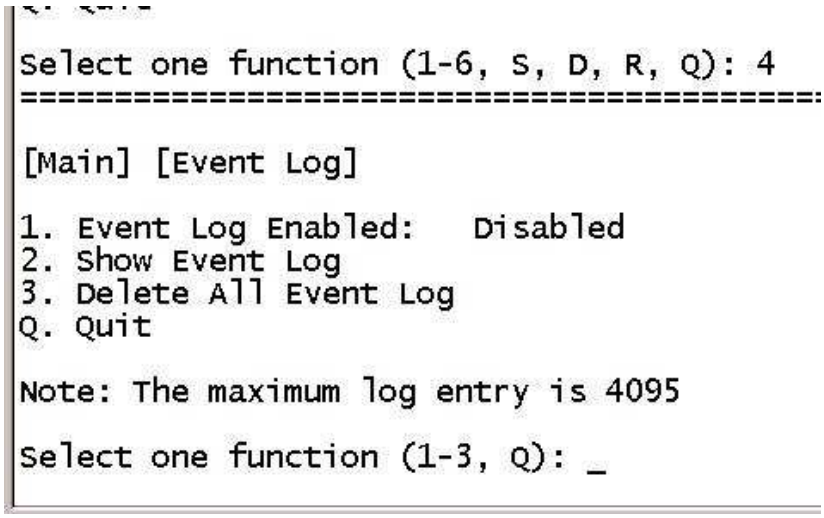

Select one function (1-6, S, D, R, Q): 3
[Main] [Redundant Power Status]
redundant power A (left-hand) ok
redundant power B (right-hand) not ok

This screen shows the current redundant power supply status. The conversion system has two power modules; left-hand is Power A, right-hand is Power B.

4-1-4. Events Log

This menu enables the user to change the conversion system Event Log settings and view Event Log records.

To access the **Events Log** options, **select 4** and then press the **Enter** key from the main menu. Enter the number or letter, and then press **Enter** to select an item.


Select one function (1-6, S, D, R, Q): 4
[Main] [Event Log]
1. Event Log Enabled: Disabled
2. Show Event Log
3. Delete All Event Log
Q. Quit
Note: The maximum log entry is 4095
Select one function (1-3, Q): _

Event Log Enabled (1): The user may enable or disable event log recording. A maximum of 4095 event records will be stored by the conversion system.

Show Event Log (2): The user can view the event log records after the events log has been enabled.

Delete All Event Log (3): The conversion system will erase all event log records stored in the Flash Rom.

4-1-5. SNMP Trap

This menu enables the user to change the SNMP Trap station settings.

To configure **SNMP Trap, select 5** and then press the **Enter** key from the main menu. Enter the number or letter, and then press **Enter** to select an item.

Send Trap (1): The user can enable or disable the SNMP Trap function.
Trap Community (2): 32 characters can be used to enter the trap community string. The trap station must have the same community string. The default community string is **public**.
IP Address (3-6): The user can enter the IP address for the stations authorized to receive the Trap information.

4-1-6. Secure IP for Telnet, HTTP and SNMP

This menu enables the user to change the management security settings for Telnet, Web-based Management and SNMP.

To configure **Secure IP, select 6** and then press the **Enter** key from the main menu.

The user can enter enable or disable security for the conversion system. A maximum of 4 IP addresses can be entered of stations authorized to manage the conversion system when management security is enabled.

4-1-7. Save Current Settings

This menu enables the user to save the configuration settings for the conversion system.

To **Save Current Settings, select S** and then press the **Enter** key from the main menu. Rebooting the conversion system is necessary to have the new configuration take effect.

4-1-8. Factory Default Settings & Reboot System

This menu enables the user to reset the Factory Default Settings for the conversion system.

To Reset the **Factory Default Settings, select D** and then press the **Enter** key from the main menu. Rebooting the conversion system is necessary to have the factory default settings take effect. The conversion system will be inoperative while performing this action.

Note: The IP Address and Subnet Mask settings will not be reset to the factory default. These settings must be manually reset in the Device Settings menu.

4-1-9. Reboot System

This menu enables the user to Reboot the conversion system to have a new configuration take effect.

To **Reboot** the conversion system**, select R** and then press the **Enter** key from the main menu. Rebooting the conversion system is necessary to have new configuration settings take effect. The conversion system will be inoperative while performing this action.

5.
Web-Based Management

This section introduces the configuration and functions of the web-based management of the Raven Series Modular Media Converter System. The conversion system provides an embedded HTML web site residing in flash memory. It offers advanced management features and allow users to manage the device from anywhere on the network through a standard browser such as Internet Explorer or Netscape.

Web-based management supports Internet Explorer 5.0 and later versions. It is based on Java Applets with an aim to reduce network bandwidth consumption, enhance access speed and present an easy viewing screen.

Note: *By default, Internet Explorer 4.0 does not allow Java Applets to open sockets. The user must explicitly modify the browser setting to enable Java Applets to use network ports. (See Appendix A for instructions to modify the setting)*

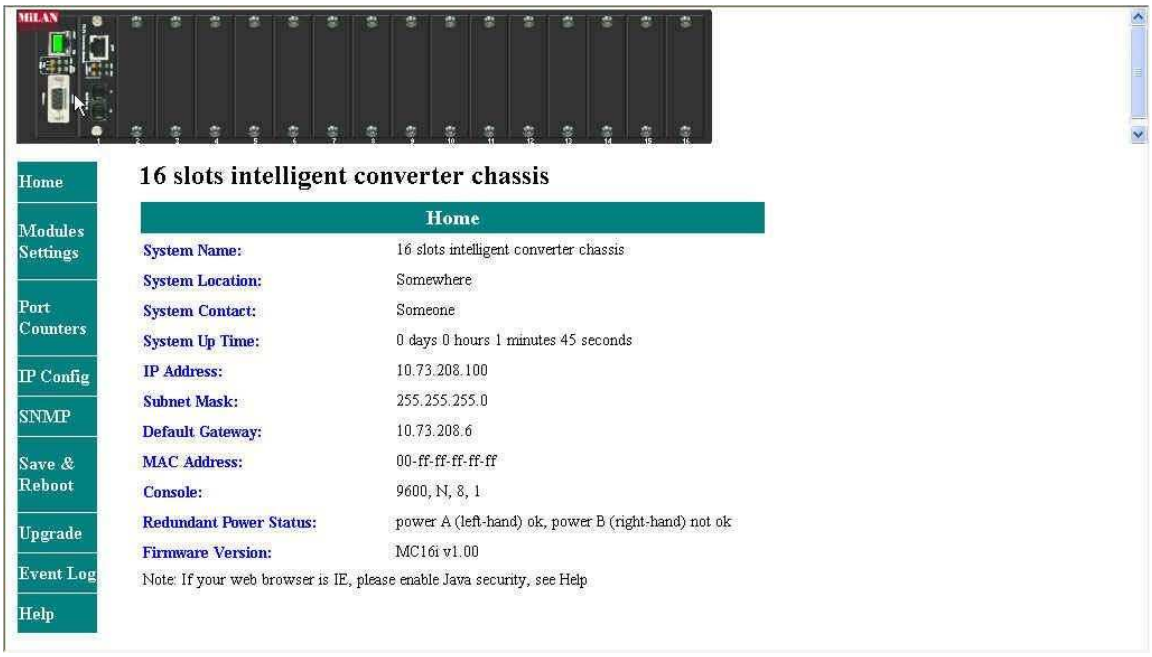
5-1. System Login

1. Launch Internet Explorer or Netscape.
2. Type http:// and the IP address of the conversion system in the Location or Address field. The default IP Address is 192.168.16.1.
3. Press **Enter**.

Figure 5-1: The Password Window

4. In the login screen, type the user name and password. The default is " **root** " for both.
5. Press **Enter** or Click **OK** and the Home Page screen for web-based management will appear.

5-2. System Configuration



5-2-1. Home Page

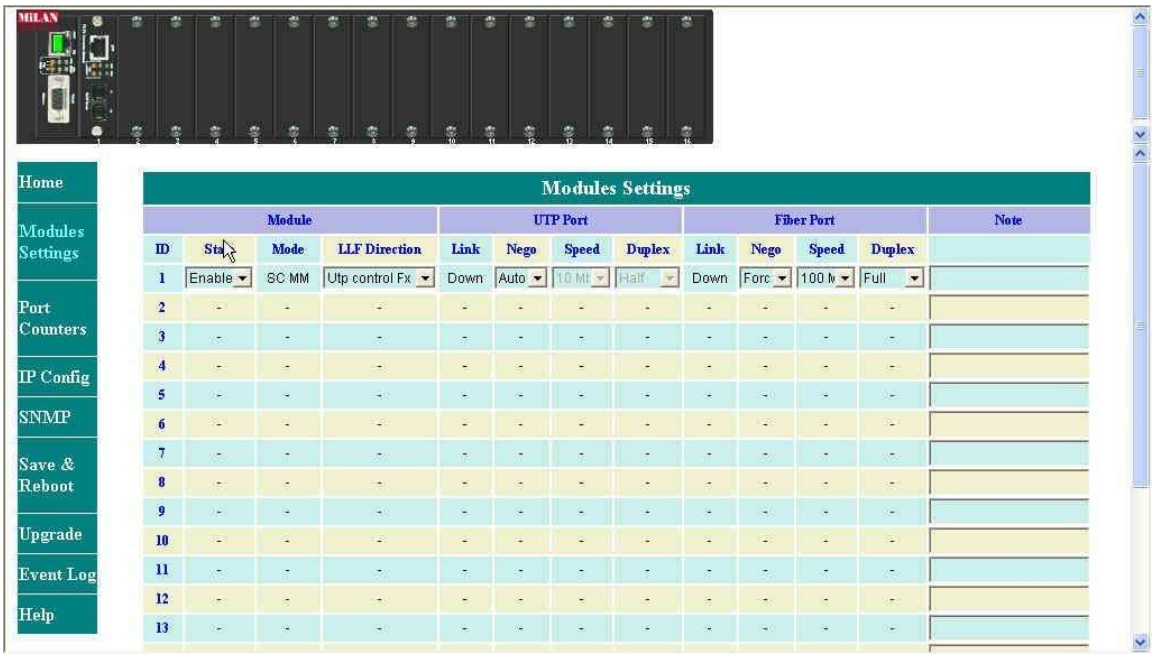
The Home page screen displays the configuration of the Raven Series Modular Media Converter System.

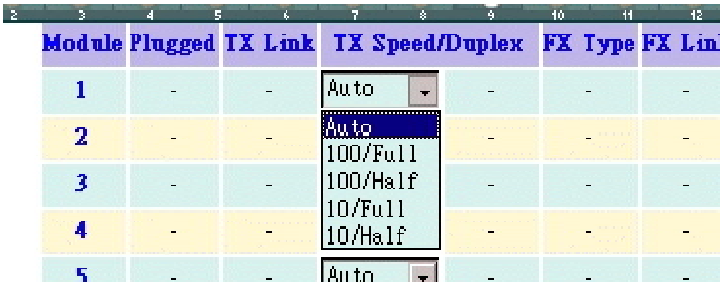
System Name: An administratively assigned name of the managed unit that can be modified in SNMP page.
System Location: The physical location of this managed unit (e.g., laboratory, 3rd floor) that can be modified in SNMP page.
System Contact: The contact person for this managed unit that can be modified in SNMP page.
System Up Time: The time since the managed unit was re-initialized is a read only field.
IP Address: The IP address of the managed unit that can be modified in IP Config page. Default is 192.168.16.1.
Subnet Mask: The subnet mask of the managed unit that can be modified in IP Config page. Default is 255.255.255.0.
Default Gateway: The default gateway of the managed unit that can be modified in IP Config page. Default is 192.168.16.254.
MAC Address: The MAC address of the managed unit is a read only field.
Firmware Version: The firmware version of the management unit is a read only field. You can upgrade to the new firmware on-line if a new version is released.

Note: *By default, IE4.0 does* not *allow Java Applets to open sockets. The user must explicitly modify the browser setting to enable Java Applets to use network ports. (See Appendix A for instructions to modify the setting).*

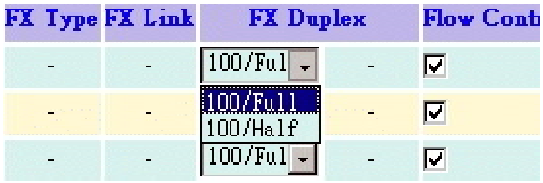
5-2-2. Modules Settings

The Modules Settings page shows the modules that have been installed into the conversion system and the current settings for each.





TX Speed/Duplex: The user can select Auto negotiation, 100Full, 100Half, 10Full, 10Half. Default is Auto-negotiation.



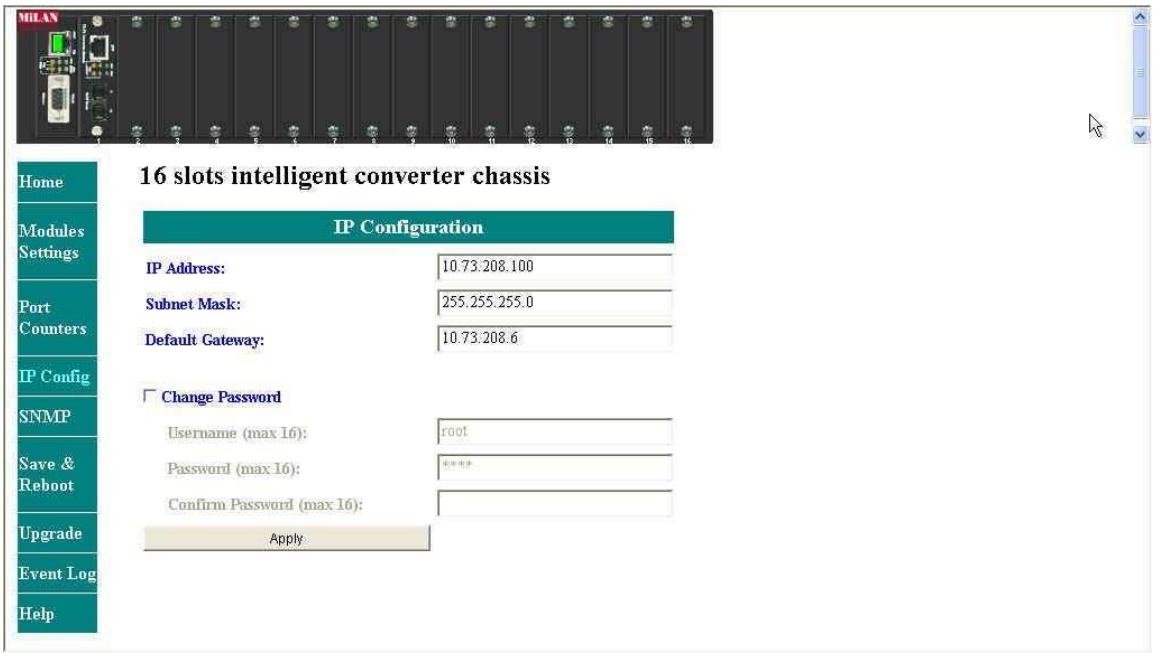
FX Duplex: The user can select 100Full or 100Half. The default is 100/Full.

Flow Control: The user can select enabled (checked) or disabled (unchecked). The default is enabled.

LLF - Link Loose Forward: The user can select to have LLF enabled (checked) or disabled (unchecked). When LLF is enabled, the controlled port will auto-disconnect if the controlling UTP or Fiber link is down. The direction can be UTP controls Fiber or Fiber controls UTP. The LLF default is disabled and UTP controls Fiber.

5-2-3. IP Configuration

This screen enables the user to change the IP address, subnet mask and default gateway of the managed node or change the user name and password.



Enter a new IP address, subnet mask or default gateway in the corresponding edit box and then Click **Apply**.

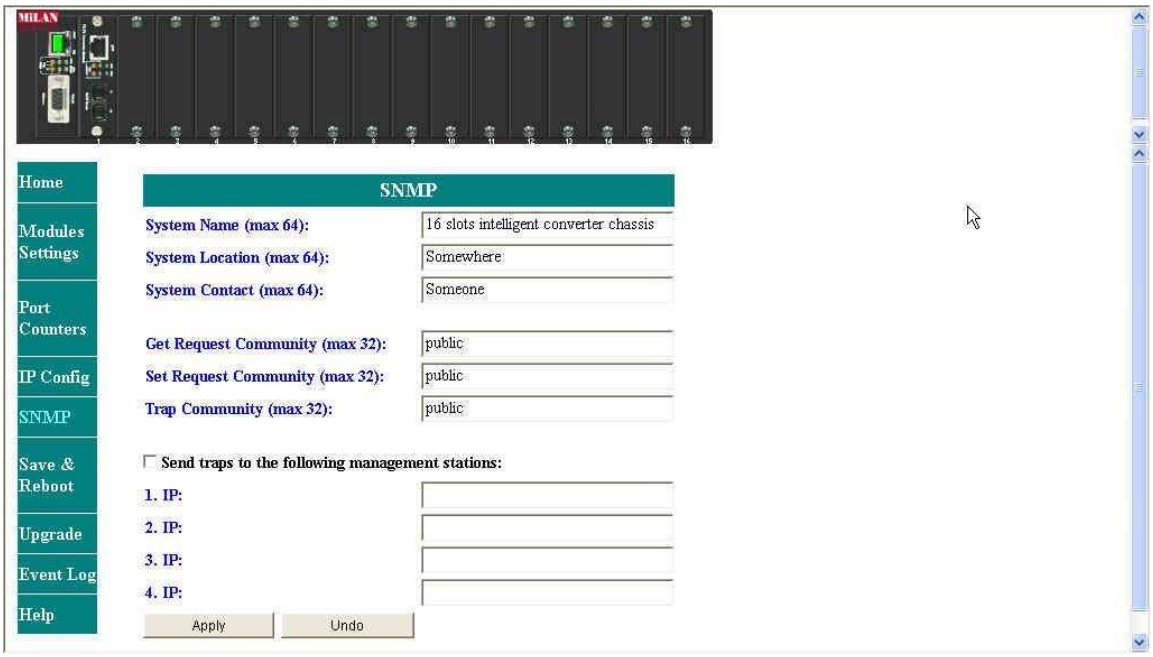
To change the user name or password for the managed node:

1. Click the "Change Password" checkbox.
2. Enter the user name in "Username" edit box.
3. Enter the same password in "Password" and "Confirm Password" edit boxes.
4. Click the **Apply** button.

You must reboot the conversion system for new configuration settings to take effect if any of the IP address, subnet mask or default gateway fields have been changed.

5-2-4. SNMP

This screen enables the user to change the System Descriptive fields, Community String and SNMP Trap configuration.



System Name: 64 characters can be used to give the conversion system a unique name in order to distinguish it on the network.

System Location: 64 characters can be used to describe the location of the conversion system.

System Contact: 64 characters can be used to list contact information for the conversion system.

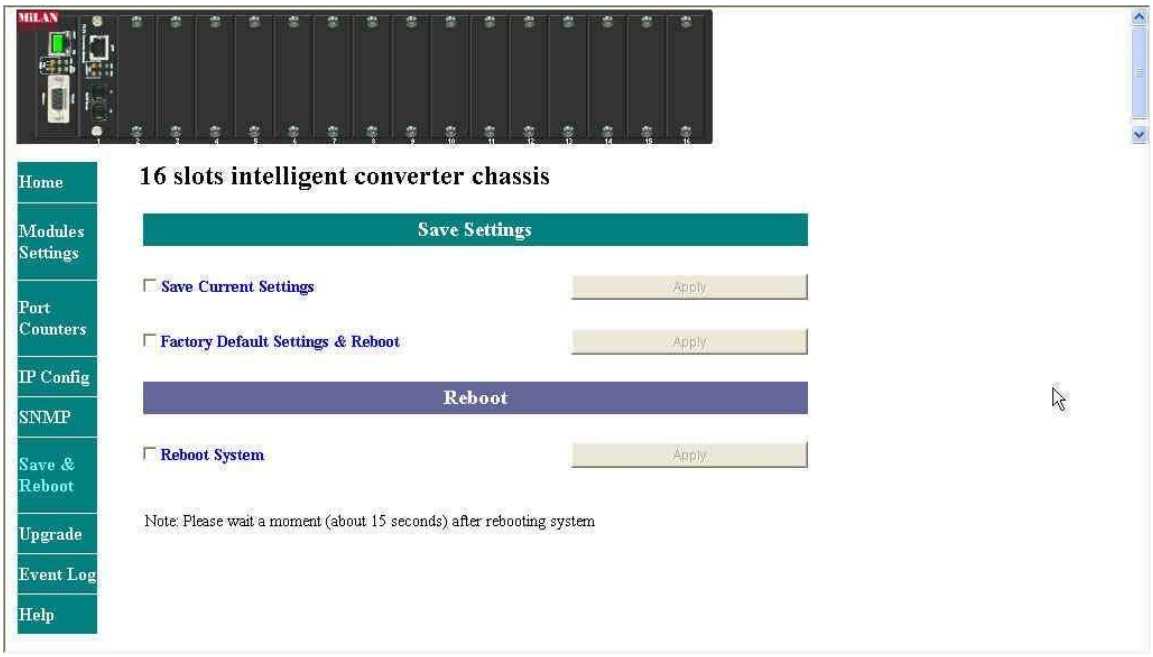
Get Request Community: 32 characters can be used to enter a community string. The default community string is **public**.

Set Request Community: 32 characters can be used to enter a community string.

Note: The **Get Request Community** and **Set Request Community** parameters must be set correctly to perform "get request" from the management unit and "set request" to the management unit.

5-2-5. Save and Reboot

This screen enables the user to save new configuration settings and reboot the conversion system to have a new configuration take effect.



5-2-5-1. Save Settings

Save the current settings by clicking the **Save Current Settings** checkbox, and then press the corresponding **Apply** button. The current settings will take effect at the next reboot of the Device.

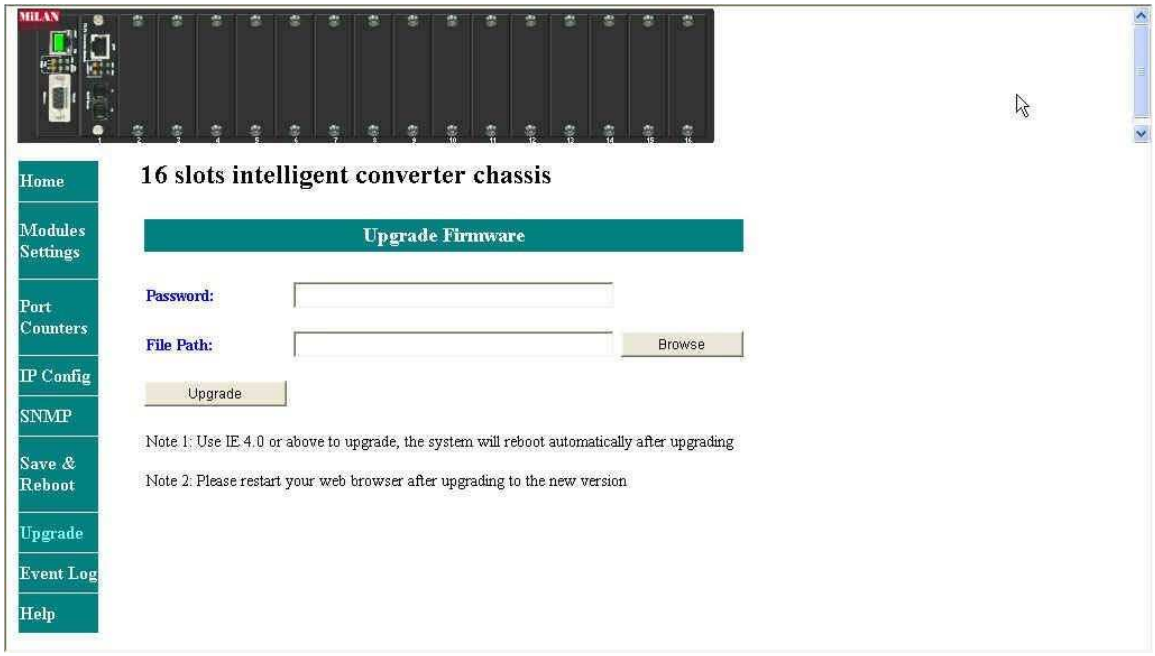
To reset the factory default settings, click the **Factory Default Settings & Reboot** checkbox, and then press the corresponding **Apply** button. The factory default settings will take effect. The conversion system will be inoperable during this process. Please wait a moment to continue to operate the web-based management.

5-2-5-2. Reboot System

To reboot the conversion system, click the **Reboot System** checkbox, and then press the corresponding **Apply** button. The conversion system will be inoperable during this process. Please wait a moment to continue to operate the web-based management.

5-2-6. Upgrade Firmware

This screen allows the user to perform an upgrade of the conversion system firmware on-line.



1. Users can choose http: or ftp: to download a new version of firmware.
2. Enter the password in the "Password" edit box.
3. Enter the file downloaded in the "File Path" edit box or press the **Browse** button to select the file.
4. Press the **Upgrade** button.
5. The conversion system will automatically reboot after the firmware has been upgraded.
6. The web browser session is disconnected during the rebooting of the Device. Re-establish the web session once the conversion system has finished rebooting.

6.
SNMP Management

This section describes how to configure and manage the device by accessing Management Information Base (MIB) objects with the SNMP protocol.

6-1. SNMP Management

The conversion system's MIB options are accessible through SNMP. SNMP performs all operations using the “GET”, “GETNEXT” and “SET” commands, instead of defining a large set of commands. The SNMP agent that resides on the conversion system can respond to MIB-related queries being sent by the network management software.

The SNMP agent gathers data from the MIB, which keeps information about device parameters and network data. The agent can send traps, or notification of certain events, to the manager.

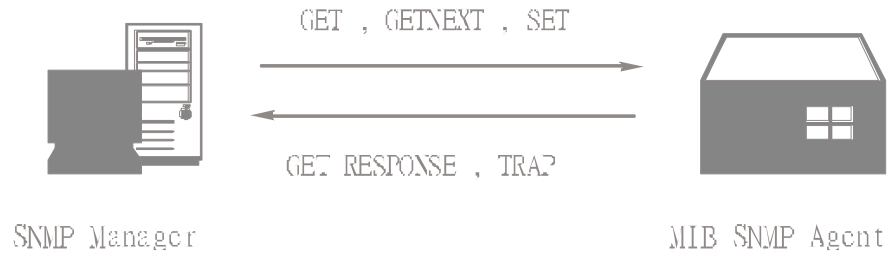


Figure 6-1: SNMP Network

The SNMP manager uses information in the MIB to perform the operations described in the table below:

Operation	Description
GET	Retrieve values of SNMP objects from a network device.
GETNEXT	Specifies an SNMP object in a network device and then retrieves information about the next few SNMP objects in the device.
SET	Modifies and stores values of SNMP objects in a network device.
GET RESPONSE	The reply to GET, GETNEXT, and SET commands sent by an SNMP agent.
TRAP	A message sent by an SNMP agent to an SNMP manager indicating some event has occurred.

Table 6-1. The commands of SNMP management

7.
Technical Specifications

This section provides the specifications of the Raven Series Modular Media Converter System.

Standards Compliance	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX/FX Ethernet, ANSI/IEEE standard 802.3 N-Way Auto-negotiation
Max Forwarding Rate and Max Filtering Rate	14,880 pps per Ethernet port, 148,800 pps per Fast Ethernet port
LED Indicators	**System:** Power A, B (Good, Fail), CPU Ready **Module:** TX Speed, TX Link/Activity, TX Full Duplex, Fiber Link/Activity, Fiber Full Duplex, Power
Network Cables	**10Base-T:** 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 (100m) **100Base-TX**: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 (100m) **100Base-FX**: 50/125, 62.5/125 micron Multi-mode fiber-optics (2Km) 8/125, 9/125 micron Single mode fiber-optics (5, 30, 60Km)
Dimensions	448mmx 279mm x 89mm (L x W x H)

Operational Temperature	0ºC to 45ºC (32ºF to 113ºF)
Operational Humidity	10% to 90% (Non-condensing)
Power Supply	**AC Input rate:** 100~240VAC, 50~60Hz (AC Type Power Module) **DC Power Input:** 40.5 ~57.0 @ 20A (DC type power supply) **Notice: AC power and DC Power cannot be used in conjunction within the same conversion system chassis.**
Power Consumption	Maximum power consumption of a fully loaded chassis is 200 Watts.
EMI	FCC Class A, CE Mark
Safety	cUL, UL

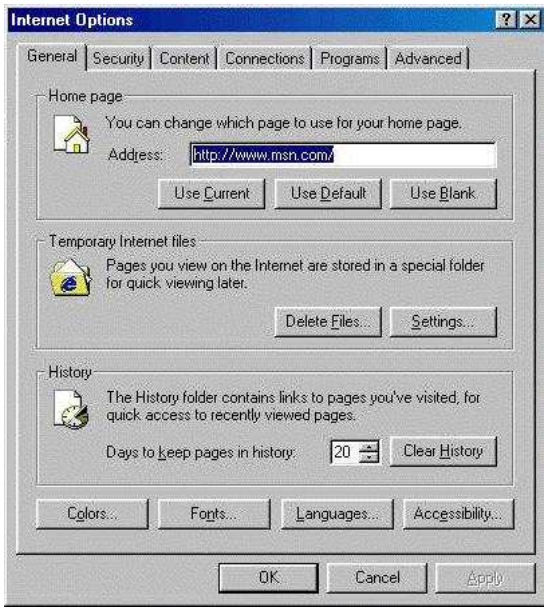
Appendix A.

Internet Explorer Setting

When using IE 4.x and later versions, you must modify the browser setting to enable Java applets to use network ports. Internet Explorer 5.0 detailed instructions follow:

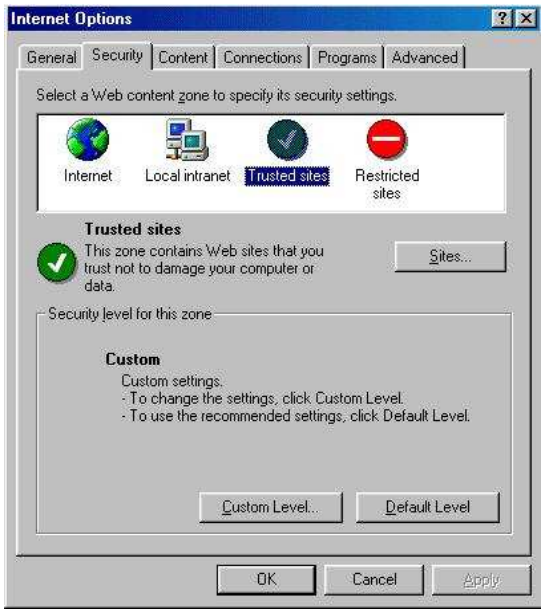
Select **Tools** from the menu bar and then select **Internet Options…** to enable Java applets.

Step 1: Select the **Security** tab.

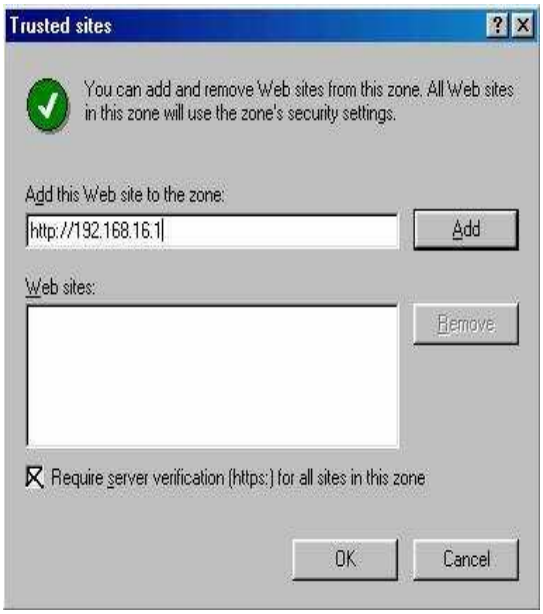


Step 2: Click on **Trusted Sites**.

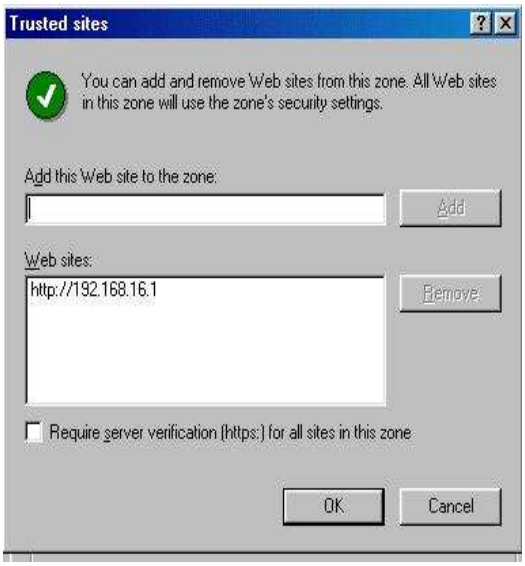
Step 3: Click the **Sites** button.



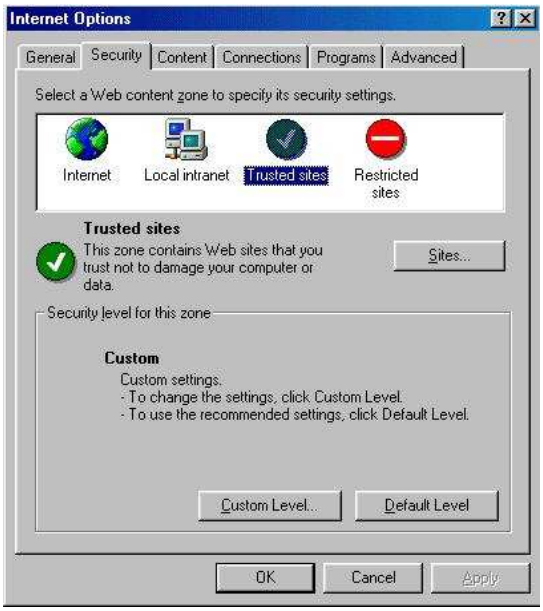
Step 4: Add the IP address of the conversion system to the **Add this Web site to the Zone** field, and then click **Add**.


Trusted sites
You can add and remove Web sites from this zone. All Web sites in this zone will use the zone's security settings.
Add this Web site to the zone:
http://192.168.16.1
Add
Web sites:
Remove
Require server verification (https:) for all sites in this zone
OK
Cancel

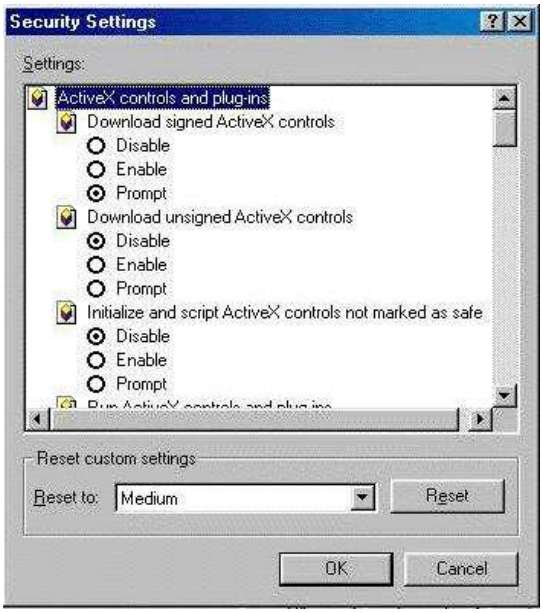
Step 5: Disable **Require server verification for all sites in this zone** by deselecting the checkbox, and then click the **OK** button to return to Internet Options.


Trusted sites
You can add and remove Web sites from this zone. All Web sites in this zone will use the zone's security settings.
Add this Web site to the zone:
Add
Web sites:
http://192.168.16.1
Remove
Require server verification (https:) for all sites in this zone
OK
Cancel

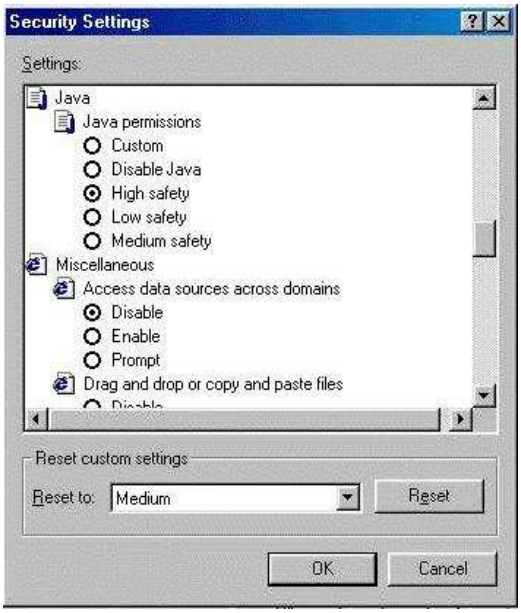
Step 6: Click the **Customer Level** button on the Internet Options screen.



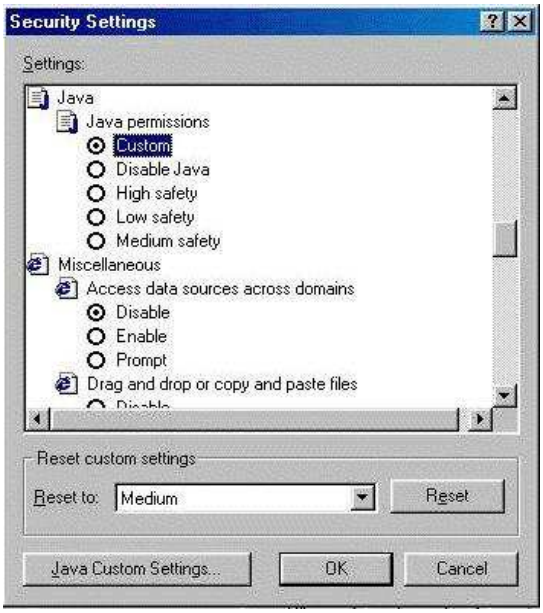
Step 7: Scroll through **Security Settings** to locate **Java**.



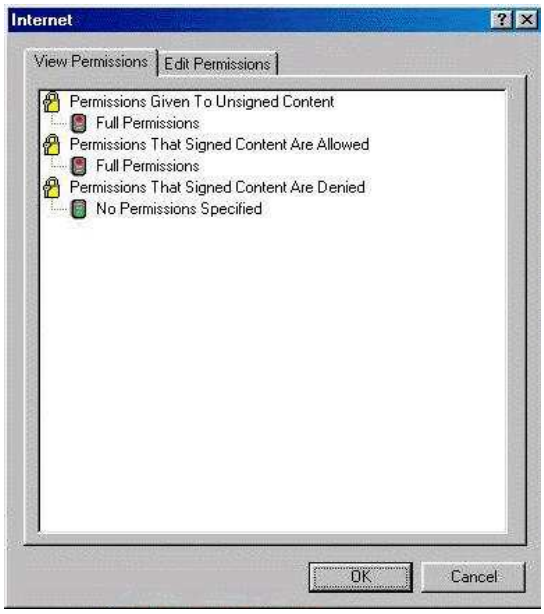
Step 8: Select **Custom** under **Java permissions**.



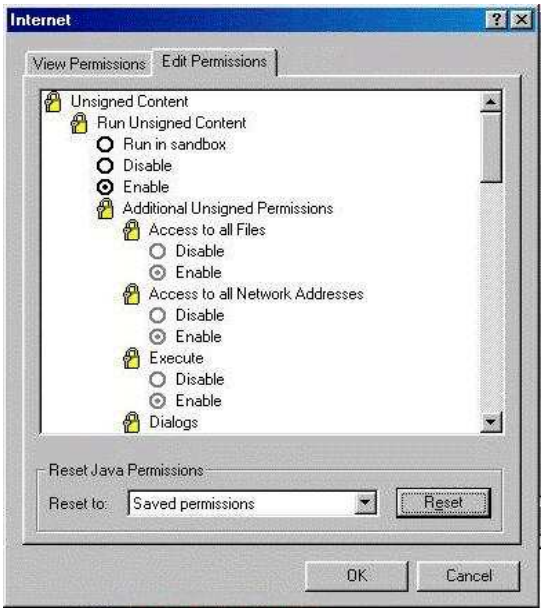
Step 9: Click the **Java Custom Settings…** button.



Step 10: Select the **Edit Permissions** tab.



Step 11: Select **Enable** under **Run Unsigned Content**.



Transition Networks, Inc.
10900 Red Circle Drive
Minnetonka, MN 55343 USA
Tel 952.942.7600
Or 800.526.9267
Fax 952.941.2322
Info@transition.com
http://www.transition.com